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Date of Application, 27th Apr., 1889
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PROVISIONAL SPECIFICATION.

[Communicated from abroad by Messrs. WIRTH & Co., of Frankfort-on-the-Main, in the Empire of Germany, acting as Agents of A. Leonhardt & Co. of Mulheim, near Frankfort-on-the-Main, in the Empire of Germany.]

The Manufacture of an Improved Medical Compound.

I, WILLIAM ROBERT LAKE, of the firm of Haseltine Lake & Co., Patent Agents, Southampton Buildings, in the County of Middlesex do hereby declare the nature of this invention to be as follows :—

This invention relates to the manufacture of an improved medical compound.

Baumann has described in the Reports of the German Chemical Society 1885 page 884 "Berichte der Deutschen Chemischen Gesellschaft" a few mercaptols of most specific properties.

I have discovered a new mercaptol which is essentially different from any at present known.

It is produced in the following manner :

9·6 kilogrammes of Methylmercaptan obtained in the well known manner, are mixed with 5·8 kilogrammes of acetone and the mixture well cooled, under constant cooling gaseous hydrochloric acid is introduced when a reaction takes place, through which methylmercaptol is formed after the formula

$$(CH_3\,SH)_2 + (CH_3)_2\,CO = (CH_3)_2\,C\,(SCH_3)_2 + H_2\,O.$$

This methylmercaptol, forming a clear colourless oily liquid, is separated from the water formed along with it in this reaction and the surplus of acid is washed out. For a further purification the mercaptol can be distilled by means of steam, it has less specific gravity than water and smells less strong and disagreeable. It proves to be very volatile.

As a means of condensation instead of gaseous hydrochloric acid, an aqueous solution of hydrochloric or sulphuric acid can be employed, but in any case it is necessary to keep the temperature very low, to avoid loss.

This methylmercaptol is transformed into the corresponding disulphonate by oxydation with permanganate of potassium according to the following formula

$$(CH_3)_2\,C\,(SCH_3)_2 + 4\,O = (CH_3)_2\,C\,(SO_2\,CH_3)_2.$$

This tetramethyldisulphonmethane is brought by us on the market under the name of methylsulphonal, it is soluble in water and crystallizes in large rhombic leaves. Its melting point was found to be between 119—120° Centigrade uncorrected atmospheric pressure.

Dated this 27th day of April 1889.

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, Agents for the Applicant.

[*Price* 4*d.*]

COMPLETE SPECIFICATION.

The Manufacture of an Improved Medical Compound.

I, William Robert Lake, of the firm of Haseltine, Lake & Co., Patent Agents, Southampton Buildings, in the County of Middlesex do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to the manufacture of an improved medical compound.

Baumann has described in the Reports of the German Chemical Society 1885 page 884 "Berichte der Deutschen Chemischen Gesellschaft" a few mercaptols of most specific properties.

I have discovered a new mercaptol which is essentially different from any at present known.

It is produced in the following manner 9·6 kilogrammes of methylmercaptan obtained in the well known manner are mixed with 5·8 kilogrammes of acetone and the mixture well cooled, under constant cooling gaseous hydrochloric acid is introduced when a reaction takes place, through which methylmercaptol is formed after the formula :

$$(CH_3\,SH)_2 + (CH_3)_2\,CO = (CH_3)_2\,C\,(SCH_3)_2 + H_2\,O.$$

This reaction is accompanied by a certain loss, if the methylmercaptan is not brought into reaction after being dissolved in a suitable solvent which at the same time is indifferent towards the other ingredients, I therefore first dissolve the methylmercaptan in suitable solvents such as alcohol, benzol, toluol, methylalcohol, ether, bromethyl and then allow the above described reaction to take place.

Instead of the above named solvents their homologues may be employed with similar results.

After the reaction is completed, the water formed by the reaction is first separated and after this the solvent is driven off and the methylmercaptol remains, this represents a clear colourless oily liquid very refractive not soluble in water, easily soluble in alcohols, ethers, chloroform, chlorethyl iodide of methyl and the like. If in a pure state, it can be distilled without decomposition and its boiling point is at 168—170° C. uncorrected.

It is of less specific gravity than water and smells less strong and disagreeable than the aethylmercaptol.

As a means of condensation instead of gaseous hydrochloric acid an aqueous solution of hydrochloric or sulphuric acid can be employed, but in any case it is necessary to keep the temperature very low, to avoid loss.

This methylmercaptol is transformed into the corresponding disulphone by oxidation with permanganate of potassium according to the following formula

$$(CH_3)_2\,C\,(SCH_3)_2 + 4\,O = (CH_3)_2\,C\,(SO_2\,CH_3)_2.$$

This tetramethyldisulphonmethane I call by the name of "methylsulphonal," or "methonal," it is soluble in water and cristallizes in large rhombic leaves. Its melting point was found to be between 119—120° Centigrade uncorrected atmospheric pressure.

Having now particularly described and ascertained the nature of the said invention, and in what manner the same is to be performed, as communicated to me by my foreign correspondent I declare that what I claim is :—

The production of tetramethylmercaptol and the transformation of such into its disulphone by means of oxidation substantially as described.

Dated this 22nd day of January 1890.

HASELTINE, LAKE & Co.,
45, Southampton Buildings, London, Agents for the Applicant.

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